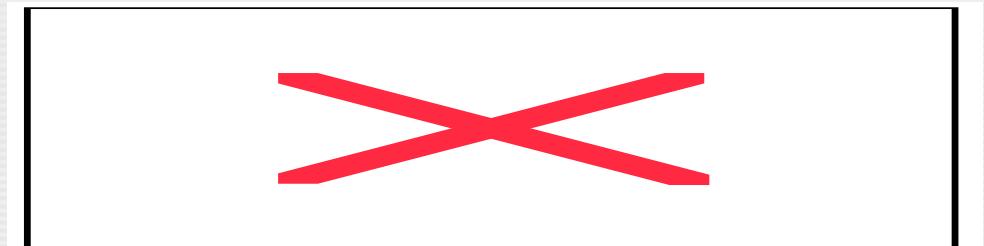


# IOUG SIG Name

## **Real-time Updates in a Mobile Enterprise**

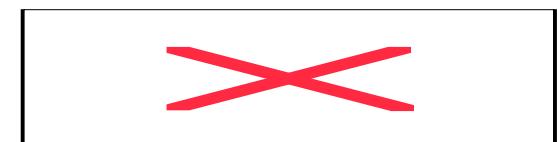
**Audrey Mc Keown**  
**Leica Geosystems Geospatial Imaging**



# IOUG Spatial SIG

## Speaker Qualifications

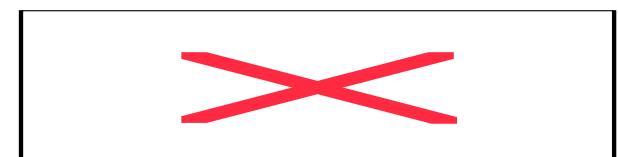
- Audrey Mc Keown,
- Product Manager Leica ADE Leica Geosystems Geospatial Imaging
- Business Leadership OSUG Board



# IOUG SIG Name

## **Florida Turnpike- Real-time Mobile Enterprise Asset Management**

- Issues to overcome in Enterprise Asset Management
- Enabling real-time updates in a mobile enterprise solution
- Enterprise Architecture and data integrity
- Information driven systems
- Real benefits and cost savings of enterprise mobility for Business Intelligence across the organization.



# Location-enabling the Enterprise Remotely - Florida Turnpike

- Business Driver for Enterprise Solution
- Mandated to maintain and repair mandated roadway assets within 2 weeks of major event
- Previously used paper and “sneaker net” (3 man years in total)
- Bottom Line Cost and Safety



## **Biggest Problem - Field Data Issues**

- Proprietary solution using legacy GIS too costly and not timely
- Needed collection of data in a enterprise format- conversion of one format to another caused delays and issues
- Need to geo-reference digital photography
- Data validation at input for QC
- Accurate GPS enabled field data collection
- Simplify the process – non GIS users
- Build a system that can evolve in the enterprise - use standard IT resources

## **Solution - Real-time Mobile Enterprise Solution**

- Deployed capability they had in office, in the field.
- Empowered field workers to create and maintain the information they need to use. (ownership)
- Enabling mobile applications with location and editing capability for company assets and business information.
- Real-time mobile operations and enterprise data management saves the company time and money by eliminating the need to reprocess changes in other company IT systems (saved up to 3 man years capturing)

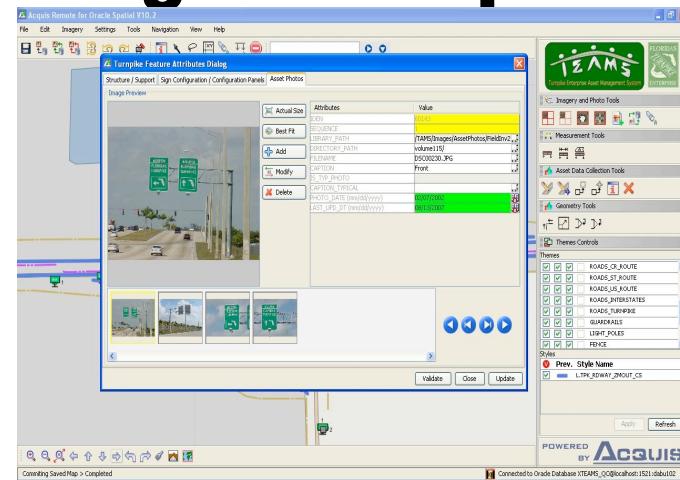
**Wrong decisions are made when you have incorrect data,” Thorpe said. “ We now have not only a complete inventory of our assets, we have an accurate inventory of our assets.”**

\* GCN, Highway Maintenance, Patrick Marshall, September 2007.

# Enterprise Technology Enabling Field Updates

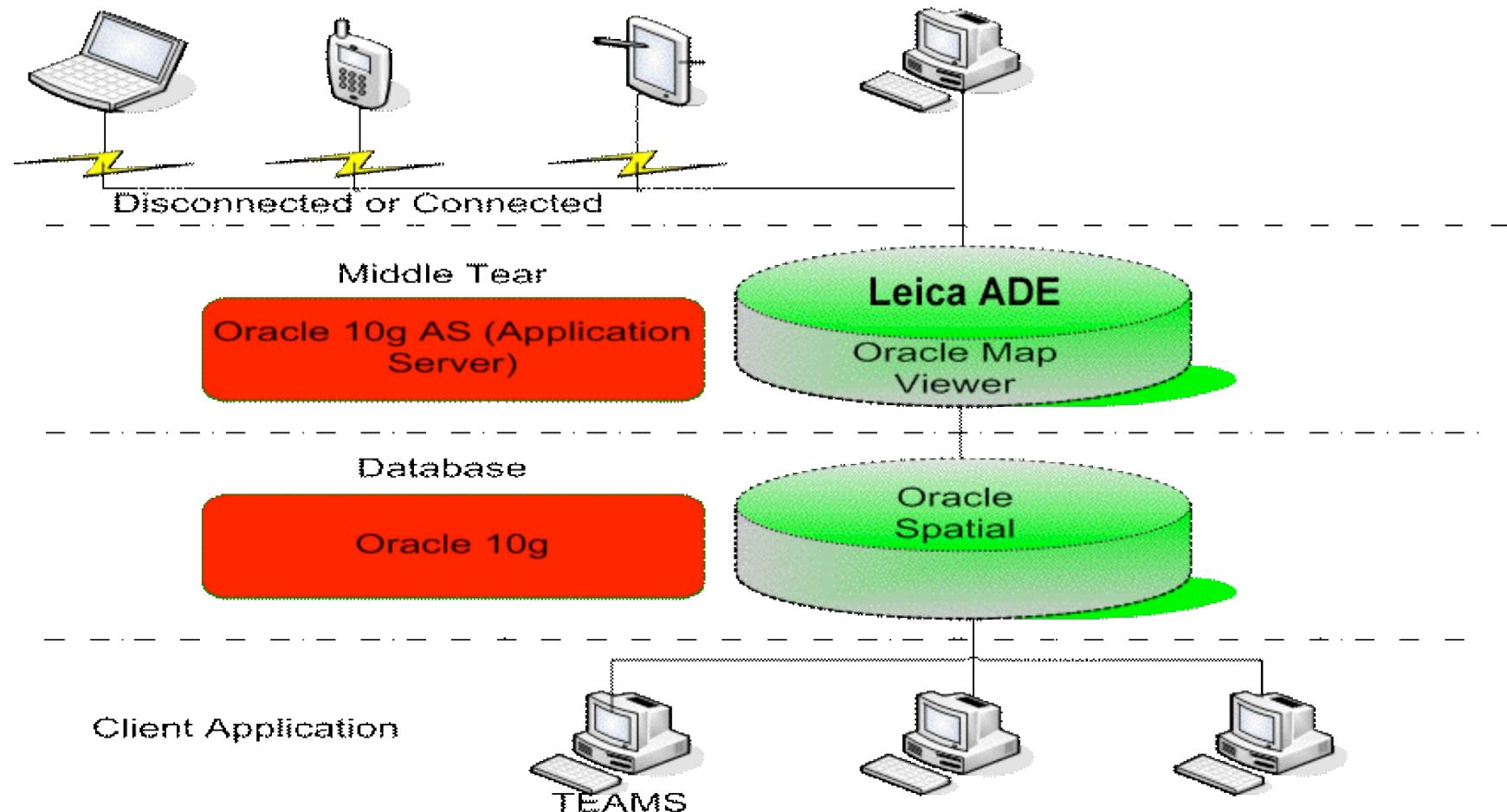
## The IT Solution

- Oracle Spatial Enterprise Architecture
- Leica ADE Remote real-time data collection & validation
- Tablet PCs in the field
- GPS, digital camera records (geo-referenced)
- Enable connected, disconnected and synchronous updating in enterprise application
- Provide business and spatial data in a solution and format

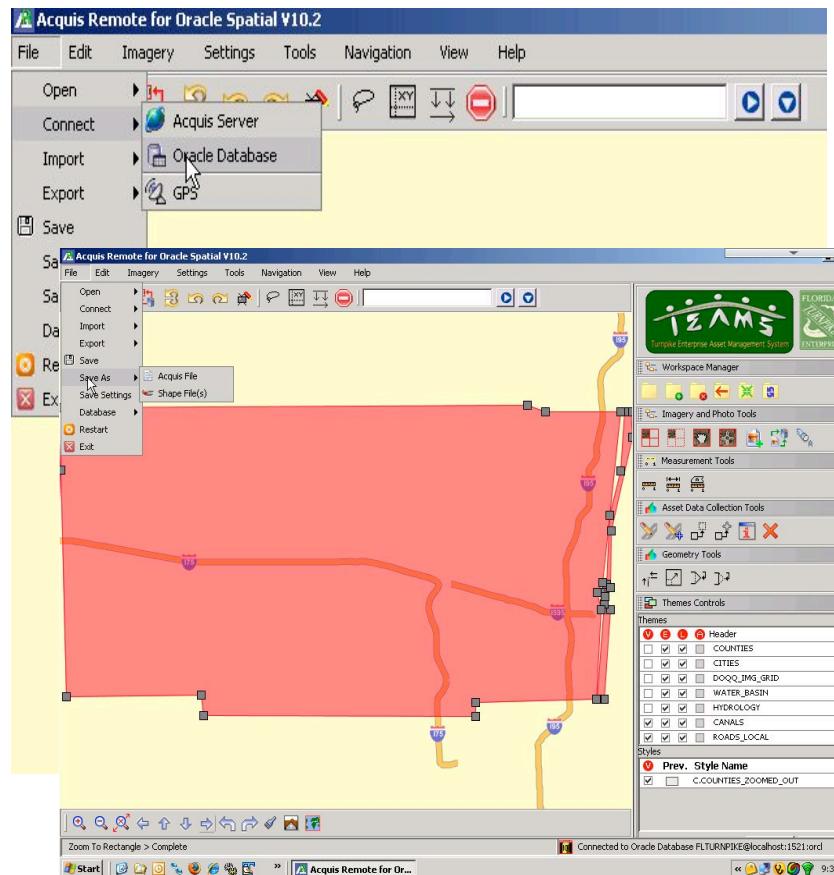




# TEAMS System Architecture



# Enterprise Synchronization – connect or disconnect



## Download

- business information,
- business rules defined in the database
- geospatial information

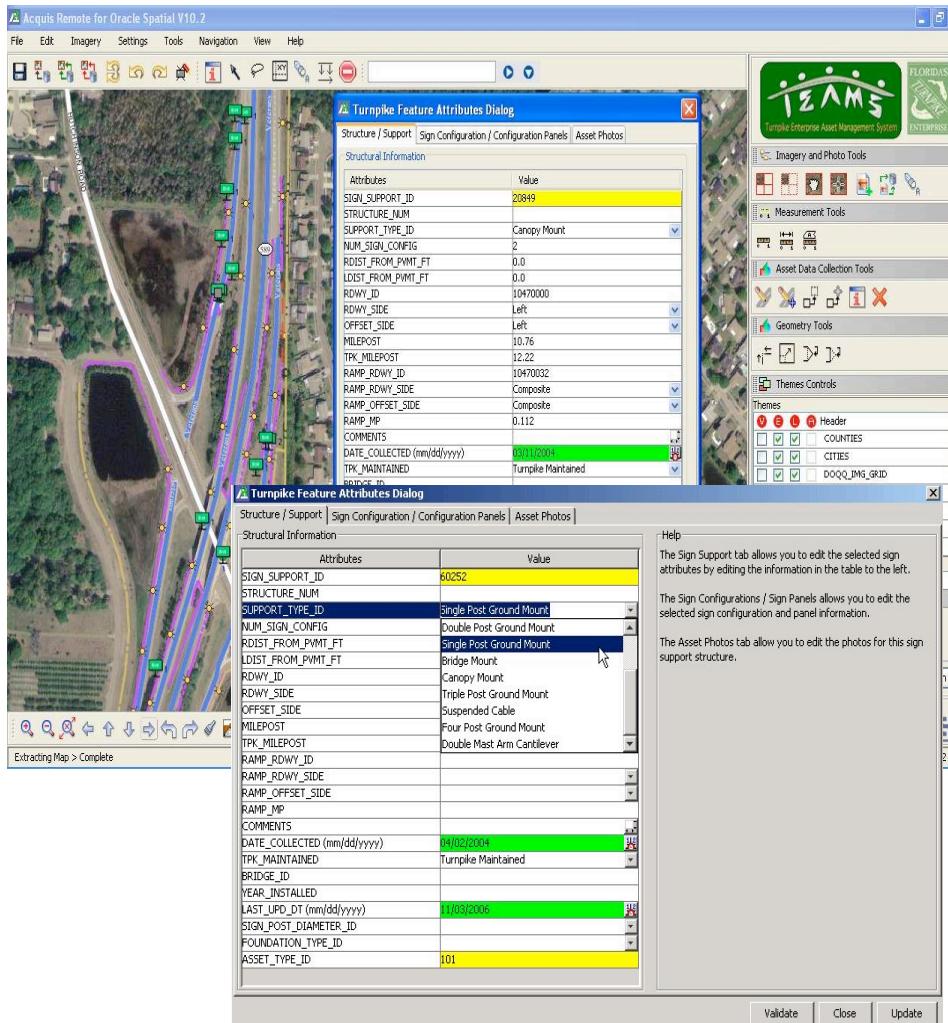
## Data locking in database

- ensures data integrity is maintained
- Use Oracle workspace Manager
- Topologically valid feature updates

## Operate in the field:

- connected (via LAN),
- disconnected (offline)
- occasionally connected – work offline if you lose your connection without losing your changes

# Information Driven Systems & Data Collection



**Field engineers collect maintain, and update assets in a mobile enterprise application**

**Field engineers have ALL relevant information enterprise not just spatial data**

**Real-time topologically valid data**

**Business ruled and data from enterprise drive data capture and data quality**

**Data updates are current and complete.**

**Turnpike managers have near-instant reporting on assets**

# The Ripple Affect on Business Decisions

- Where are our assets ?” We think we’ve saved about **\$500,000** a year in just the time and cost it takes to answer a question”.\*
- “TEAMS data made it possible to renegotiate the contract based on the total square footage of signs to be cleaned. “It came out to around **\$700,000** a year that we were able to reduce in pressure-washing costs.”\*
- Cost Avoidance- Maintenance records for highway resurfacing. “We think [we’re saving] at a minimum **\$10 million a year** by hitting it at the right time. It could be as much as \$40 million over 4 years” William Thorpe, chief financial officer at Florida’s Turnpike \*
- System software cost savings and **development in 16 week**

Success due to:-

1. Vision of Florida Turnpike Project Team
2. Leica Geosystems Enterprise Solutions Experts – Oracle Spatial Implementation expertise
3. Mobile data collection and data management in a standard enterprise architecture

\* GCN, Highway Maintenance, Patrick Marshall, September 2007.

# **Spatial SIG**

## **Implement Cost Effective Mobile Applications**

- Reduce cost – Mobile field data collection
- Reduce data integrity issues - field data validation
- Key Data maintenance - topology & long transaction processing
- Eliminate reprocessing cost - enterprise architecture
- Embrace other technologies - Spatial intelligence, GPS, Digital Photography,
- Real cost savings of enterprise mobility is Business Intelligence derived from it, available to the organization.